Take Test: Quiz 4.2

Test Information

Description	
Instructions	
Multiple Attempts	This test allows multiple attempts.
Force Completion	This test can be saved and resumed later.

QUESTION 1

1 points Saved

True or false?

The poles of the transfer function $G(s)$ are the same as the eigenvalues of the system matrix A.

- (●) True
- ( ) False

QUESTION 2

1 points Saved

Question Completion Status:

For the transfer function $G(s) = \frac{N(s)}{D(s)}$, the characteristic equation is $D(s) = 0$.

- [x] For the state-space system (A,B,C,D), the characteristic equation is $|sI - A| = 0$.
- [ ] For the state-space system (A,B,C,D), the characteristic equation is $(sI - A)^{-1} = 0$.
- [ ] For the transfer function $G(s) = \frac{N(s)}{D(s)}$, the characteristic equation is $N(s) = 0$.

QUESTION 3 **1 points** Saved

Which of the following statement(s) are correct? The characteristic equation is important because…

- [ ] The zeros of the transfer function determine the transient response.
- [x] The poles of the transfer function are solved through the characteristic equation.
- [ ] The order of the poles are the same as the eigenvalues of the system matrix.
- [x] The poles of the transfer function determine the type of transient response.

QUESTION 4 **1 points** Saved

Which of the following is the characteristic equation for the transfer function $G(s) = \frac{s(s+2)}{s^2+2s+2}$?

- ○ $\frac{s(s+2)}{s^2+2s+2} = 0$
- ◉ $s^2+2s+2 = 0$
- ○ $s = -1 \pm j$

$s(s+2)=0$

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers | Save and Submit